November 28, 2001

Kevin N. Baer, Ph.D.
Deltech Corporation
700 University Avenue
Monroe, Louisiana 71209

Dear Dr. Baer:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for p-methyl styrene, posted on the ChemRTK Web Site on, July 10, 2001. I commend Deltech Corporation for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Chemical RTK HPV Challenge Program website EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

The Deltech Corporation has provided data that satisfy the required SIDS endpoints for physicochemical properties, ecotoxicity, and health effects. For estimating transport and distribution of methylstyrene in the environment, EPA recommends using the Fugacity Level III model. In addition, EPA recommends a new biodegradation test using a closed system to minimize the effects of volatilization.

As with other submissions where the available data are either inadequate or insufficiently documented, this case will remain open until adequate documentation is in hand.

EPA will post this letter and the attached Comments on the Chemical RTK web site within the next few days. As noted in the comments, we ask that Deltech Corporation advise the Agency, within 60 days of the posting on the Chemical RTK website, of any modifications to its submission.

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit general questions about the HPV Challenge Program through the Chemical RTK web site comment button or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsca-hotline@.epa.gov.

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

/s/

Oscar Hernandez, Director
Risk Assessment Division

Attachment

cc: W. Sanders
A. Abramson
C. Auer
M. E. Weber

EPA Comments on Chemical RTK HPV Challenge Submission: p-Methylstyrene

SUMMARY OF EPA COMMENTS

The sponsor, Deltech corporation, submitted a Test Plan and Robust Summaries to EPA on May 15, 2001, for p-Methylstyrene (CAS # 622-97-9). EPA posted the submission on the RTK HPV Challenge Web site on July 10, 2001.

EPA has reviewed this submission and has reached the following conclusions:

1. Physicochemical and Environmental Fate Data. For estimating transport and distribution, the sponsor used the Fugacity Level I Model. EPA recommends using the Fugacity Level III Model (see Test Plan comments below).

The biodegradation data are not adequate to permit an evaluation of the endpoint (See Test Plan comments below).

2. Health Effects Endpoints. All appropriate SIDS-level tests have been performed and adequate robust summaries have been submitted.

3. Ecotoxicity. All appropriate SIDS-level tests have been performed and adequate robust summaries have been submitted.

EPA is requesting that the Sponsor advise the Agency within 60 days of any modifications to its submission.

EPA COMMENTS ON THE p-METHYLSTYRENE CHALLENGE SUBMISSION

Test Plan

Chemistry (melting point, boiling point, vapor pressure, water solubility, and partition coefficient).

The submitter's approach to these endpoints is acceptable for the purposes of the HPV Challenge Program.

Environmental Fate (photodegradation, stability in water, biodegradation, and transport/distribution).

Transport and Distribution. EPA recommends using the EQC Fugacity Level III Model from the Canadian Environment Modeling Center at Trent University, which allows full control of data inputs. This model can be found at the following web address: http://www.trentu.ca/academic/aminss/envmodel. EPA believes that the EQC Fugacity Level III model is more realistic than the Fugacity Level I model for estimating a chemical's fate in the environment.

Biodegradation. The Test Plan indicates that the biodegradation data are adequate but the submitter has concluded that "the high rate of loss from the reaction vessel was due to the volatility of the p-methylstyrene". EPA agrees with the submitter that there was a significant loss of the chemical during testing and recommends that the submitter should perform a new test using a closed system, in order to minimize the effects of volatilization and to obtain a true measure of the biodegradation of this chemical.

Health Effects (acute toxicity, repeat dose toxicity, genetic toxicity, and reproductive/developmental toxicity).

Adequate existing data are available for these endpoints.

Ecological Effects (fish, daphnid, and algal toxicity)

Adequate existing data are available for these endpoints.

Followup Activity

EPA requests that the Sponsor advise the Agency within 60 days of any modifications to its submission.